

MUSCLE & NERVE



CONTENTS

Official Journal of the American Association of Electrodiagnostic Medicine

JANUARY 1996

1 Message from the Editor's Office

MAIN ARTICLES

- 2 Single-Fiber Electromyography in Diabetic Peripheral Polyneuropathy**
Vera Bril, MD, Marsha R. Werb, MD, Douglas A. Green, MD, and Anders A.F. Sima, MD
- 10 Blink Reflex Recovery Curves in Blepharospasm, Torticollis Spasmodica, and Hemifacial Spasm**
Job L.A. Eekhof, MD, Majid Aramideh, MD, Lo J. Bour, PhD, Anton A.J. Hilgevoord, MD, Hans D. Speelman, MD, PhD, and Bram W. Ongerboer de Visser, MD, PhD
- 16 Tomaculous Neuropathy: A Clinical and Electrophysiological Study in Patients with and without 1.5-Mb Deletions in Chromosome 17p11.2**
Anthony A. Amato, MD, Gary S. Gronseth, MD, Kevin J. Callera, MD, Kathleen S. Kagan-Hallet, MD, Wilson W. Bryan, MD, and Richard J. Barohn, MD
- 23 Inclusion Body Myositis: Investigation of the Mumps Virus Hypothesis by Polymerase Chain Reaction**
Simon A. Fox, MSc, Bryan K. Ward, PhD, Peter D. Robbins, MBBS, Frank L. Mastaglia, MD, and Nigel R. Swanson, PhD
- 29 Electrophysiological Evaluation of Spinal Reflexes During Epidural Anesthesia in an Experimental Model**
Xavier Navarro, MD, PhD, Juan J. Lazaro, MD, Miquel Buti, MD, PhD, Enrique Verdu, PhD, Pere J. Fabregas, MD, and Bernardo Castellano, PhD
- 37 Ischemic Reperfusion Causes Lipid Peroxidation and Fiber Degeneration**
Masaaki Nagamatsu, MD, James D. Schmelzer, Paula J. Zollman, Inge L. Smithson, Kim K. Nickander, and Phillip A. Low, MD
- 48 A Useful Electrophysiologic Parameter for Diagnosis of Carpal Tunnel Syndrome**
Luca Padua, MD, Mauro Lo Monaco, MD, Enza Maria Valente, MD, and Pietro Attilio Tonali, MD
- 54 On the Nature of Endogenous Antilexcitatory Factors in the Cerebrospinal Fluid of Patients with Demyelinating Neurological Disease**
Heinrich Brinkmeier, PhD, Markus J. Seewald, PhD, Kurt H. Wollinsky, MD, and Reinhardt Rüdell, PhD
- 63 The Influence of the Reference Electrode on CMAP Configuration: Leg Nerve Observations and an Alternative Reference Site**
Allison Brashear, MD, and John C. Kincaid, MD
- 68 Porcine Malignant Hyperthermia: Genotype and Contractile Threshold of Immature Muscles**
Esther M. Gallant, PhD, and Robert C. Jordan, DVM
- 74 Longitudinal Studies of the Duplication form of Charcot-Marie-Tooth Polyneuropathy**
James M. Killian, MD, Pinky S. Tiwari, MD, Sheila Jacobson, MD, Robert D. Jackson, REDT, and James R. Lupski, MD, PhD
- 79 A Transgenic Mouse Model of the Slow-Channel Syndrome**
Christopher M. Gomez, MD, PhD, Bula B. Bhattacharyya, PhD, Pierre Charnet, PhD, John W. Day, MD, PhD, Cesar Labarca, PhD, Robert L. Wollmann, MD, PhD, and Edward H. Lambert, MD, PhD
- 88 Case of the Month: Intrauterine Onset of a Mononeuropathy: Peroneal Neuropathy in a Newborn with Electromyographic Findings at Age One Day Compatible with Prenatal Onset**
H. Royden Jones, Jr., MD, Gerald J. Herbison, MD, Stanley R. Jacobs, MD, Peter R. Kollros, MD, PhD, and George A. Macones, MD

SHORT REPORTS

- 92 Brachial Plexopathy Secondary to Mycotic Subclavian-Axillary Artery Aneurysm**
Martin Veilleux, MD, Pierre Bourgouin, MD, and Jean-François Morin, MD
- 94 Ubiquitin Expression in Acute Steroid Myopathy with Loss of Myosin Thick Filaments**
C. Minetti, MD, M. Hirano, MD, G. Morreale, MD, M. Pedemonte, MD, G. Cordone, MD, A.P. Hays, MD, and E. Bonilla, MD

- 97 **A Composite Nerve Graft System: Extracted Rat Peripheral Nerve Injected with Cultured Schwann Cells**
Charles E. Dumont, MD, Laurel M. Bolin, PhD, and Vincent R. Hentz, MD
- 100 **Decline of Muscle Fiber Conduction Velocity During Short-Term High-Dose Methylprednisolone Therapy**
J.H. van der Hoeven, MD
- 103 **Limited Plasticity of Human Muscle**
Tanya Hawrylyshyn, Alan J. McComas, MB, and Stewart B. Heddlie, MD
- 106 **Isolated Inferior Calcaneal Neuropathy**
Tracy A. Park, MD, and David R. Del Toro, MD
- REGULAR FEATURES**
- 109 **Letters to the Editor**
- 115 **Calendar of Events**
- 117 **AAEM News and Comments**
- 121 **1995 Presidential Address**

FEBRUARY 1996

- MAIN ARTICLES**
- 125 **Reciprocal Change of Motor Evoked Potentials Preceding Voluntary Movement in Humans**
Minoru Hoshiyama, MD, PhD, Yoshihiro Kitamura, MD, PhD, Sachiko Koyama, PhD, Shoko Watanabe, MD, Motoko Shimojo, MD, and Ryusuke Kakigi, MD, PhD
- 132 **Yields of Muscle from Myogenic Cells Implanted into Young and Old mdx Hosts**
Jennifer E. Morgan, BSc, PhD, Robert M. Fletcher, and Terence A. Partridge, BSc, PhD
- 140 **Frequency of Median Mononeuropathy in Patients with Mild Diabetic Neuropathy in the Early Diabetes Intervention Trial (EDIT)**
James W. Albers, MD, PhD, Morton B. Brown, PhD, Anders A.F. Sima, MD, PhD, and Douglas A. Greene, MD
- 147 **Tenascin-C Expression in Dystrophin-Related Muscular Dystrophy**
Daniel L. Settles, BA, Robert A. Cihak, MD, and Harold P. Erickson, PhD
- 155 **Electrophysiological Pattern of Involuntary Limb Movements in the Restless Legs Syndrome**
Claudia Trenkwalder, MD, Stefan F. Bucher, PhD, and Wolfgang H. Oertel, MD
- 163 **Hypertrophic Neuritis Due to Chronic Inflammatory Demyelinating Polyradiculoneuropathy (CIDP): A Postmortem Pathological Study**
Masayuki Matsuda, MD, PhD, Shu-ichi Ikeda, MD, PhD, Shunpei Sakurai, MD, Aiyuki Nezu, MD, PhD, Nobuo Yanagisawa, MD, PhD, and Takashi Inuzuka, MD, PhD
- 170 **Lumbrical-Interosseal Motor Studies Localize Ulnar Neuropathy at the Wrist**
Milind J. Kothari, DO, David C. Preston, MD, and Eric L. Logigian, MD
- 175 **Localization and Amount of Myoglobin and Myoglobin mRNA in Ragged-Red Fiber of Patients with Mitochondrial Encephalomyopathy**
Makoto Kunishige, MD, Takao Mitsui, MD, Masashi Akaike, MD, Masayuki Shono, PhD, Hisaomi Kawai, MD, and Shiro Saito, MD
- 183 **Current Perception Thresholds in Toe-to-Digit Transplantation and Digit-to-Digit Replantation**
Nai-Shin Chu, MD
- 187 **Sporadic MERRF/MELAS Overlap Syndrome Associated with the 3243 tRNA^{Leu(UUR)} Mutation of Mitochondrial DNA**
Yolanda Campos, MSc, Miguel Angel Martin, MSc, Gustavo Lorenzo, MD, Manuel Aparicio, MD, Ana Cabello, MD, and Joaquin Arenas, PhD
- 191 **Somatosensory Evoked Potentials During the Ideation and Execution of Individual Finger Movements**
Paolo M. Rossini, Donatella Caramia, Maria A. Bassetti, Patrizio Pasqualetti, Franca Tecchio, and Giorgio Bernardi

- 203 Efficacy of Limb Cooling on the Salvage of Peripheral Nerve from Ischemic Fiber Degeneration**
Mikihiro Kihara, MD, James D. Schmelzer, Yoriko Kihara, MD, Inge L. Smithson, MS, and Phillip A. Low, MD, FRCP
- 210 Case of the Month: Isaacs' Syndrome Associated with Chronic Inflammatory Demyelinating Polyneuropathy**
Zeki Odabasi, MD, Juan L. Joy, MD, Gwendolyn C. Claussen, MD, Guillermo A. Herrera, MD, and Shin J. Oh, MD
- 216 Issues & Opinions: Are Fibrillation Potentials and Positive Sharp Waves the Same? No**
George H. Kraft, MD
- 221 Issues & Opinions: Single Muscle Fiber Discharges (Insertional Activity, End-Plate Potentials, Positive Sharp Waves, and Fibrillation Potentials): A Unifying Proposal**
Daniel Dumitru, MD
- 227 Issues & Opinions: Rebuttal**
George H. Kraft, MD
- 229 Issues & Opinions: Rebuttal**
Daniel Dumitru, MD

SHORT REPORTS

- 231 Combined Motor and Sensory Median-Ulnar Anastomosis: Report of an Electrophysiologically Proven Case**
Gwen C. Claussen, MD, B.K. Ahmad, MD, I.N. Sunwoo, MD, and Shin J. Oh, MD
- 234 Mononeuropathy Multiplex Associated with Celiac Sprue**
Praful Kelkar, MD, Mark A. Ross, MD, and Joseph Murray, MD
- 237 Severe Carpal Tunnel Syndrome: Clinical and Electrodiagnostic Outcome of Surgical and Conservative Treatment**
Hillel M. Finestone, MDCM, FRCPC, Gail M. Woodbury, BSc(PT), PhD, Teresa Collavini, MD, Yuri Marchuk, MD, and Oleh Maryniak, MD, FRCPC
- 240 (CTG)_n Expansions in Various Tissues from a Myotonic Dystrophy Patient**
Masanobu Kinoshita, MD, Ryosuke Takahashi, MD, Takashi Hasegawa, MD, Tetsuo Komori, MD, Ryuji Nagasawa, MD, Kazuhiko Hirose, MD, PhD, and Hitoshi Tanabe, MD, PhD
- 243 Value of Latency Measurements to the Small Palm Muscles Compared to Other Conduction Parameters in the Carpal Tunnel Syndrome**
W. Trojaborg, MD, DMSci, R.P. Grewal, MD, L.H. Weimer, MD, and P. Sheriff, BA
- 246 Facial Myokymia: Segmental Demyelination Demonstrated by Magnetic Stimulation**
A. Emre Öge, MD, Ari Boyaciyan, MD, Aydan Sarp, MD, and Jale Yazici, MD
- 250 Plexiform Neurofibroma of the Cauda Equina Presenting as Peroneal Muscular Atrophy**
José Berciano, MD, Javier Figols, MD, Onofre Combarros, MD, Jesús Calleja, MD, Julio Pascual, MD, and Agustín Oterino, MD

REGULAR FEATURES

- 254 Letters to the Editor**
- 261 Calendar of Events**
- 263 AAEM News and Comments**

MAIN ARTICLES

- 269 **AAEM Case Report #30: Multifocal Motor Neuropathy**
Gareth J. Parry, MD, FRACP
- 277 **Trigeminal Motor Nerve Conduction: Deep Temporal and Mylohyoid Nerves**
Timothy R. Dillingham, MD, Nicholas T. Spellman, MD, and Audrey S. Chang, PhD
- 285 **Pressure Perception in the Normal Lower Extremity and in the Tarsal Tunnel Syndrome**
P.L. Tassler, BA, and A.L. Dellon, MD
- 290 **Influence of the Bipolar Electrode Transfer Function on the Electromyogram Power Spectrum**
Christer A. Sinderby, PhD, Alain S. Comtois, PhD, Robert G. Thomson, Tech, and Alejandro E. Grassino, MD
- 302 **Objective Quantification of Muscle and Fat in Human Dystrophic Muscle by Magnetic Resonance Image Analysis**
Joanne Phoenix, PhD, Dibendu Betal, MSc, Neil Roberts, PhD, Timothy R. Helliwell, MD, MRCPATH, and Richard H.T. Edwards, PhD, FRCP
- 311 **The Effects of Lithium on Muscle Contractile Function in Humans**
Mark A. Tarnopolsky, MD, PhD, Audrey Hicks, PhD, and Karen Winegard, MSc
- 319 **A Dejerine-Sottas Neuropathy Family with a Gene Mapped with Chromosome 8**
Victor Ionasescu, MD, Jun Kimura, MD, Charles C. Searby, BS, Wilbur L. Smith Jr., MD, Mark A. Ross, MD, and Rebecca Ionasescu, MD
- 324 **Needle EMG of the Human Diaphragm: Power Spectral Analysis in Normal Subjects**
Robert Chen, MB, BChir, MSc, FRCP(C), Stephen J. Collins, MD, Hussein Remtulla, BSc, RT(EMG), Anthony Parkes, BSc, RT(EMG), and Charles F. Bolton, MD, FRCP(C)
- 331 **Characterization and Regulation of Apamin-Binding K^+ Channels in Skeletal Muscle**
Sandra Vigdor-Alboim, MSc, Asia Bak, and Sanford R. Sampson, PhD
- 338 **The Demonstration of the Size Principle in Humans Using Macro Electromyography and Precision Decomposition**
Joe F. Jabre, MD, and Nicholas T. Spellman, MD
- 342 **Residual Muscle Cytochrome c Oxidase Activity Accounts for Submaximal Exercise Lactate Threshold in Chronic Progressive External Ophthalmoplegia**
Gabriele Siciliano, MD, PhD, Bruno Rossi, MD, Laura Manca, MS, Corrado Angelini, MD, Alessandra Tessa, MS, Lodovica Vergani, MS, Andrea Martinuzzi, MD, and Alberto Muratorio, MD
- 350 **The Prevalence of Lumbar Paraspinal Spontaneous Activity in Asymptomatic Subjects**
Elaine S. Date, MD, Eugene Y. Mar, MD, Michael R. Bugola, MD, and Jeffrey K. Teraoka, MD
- 355 **Improvement of Muscular Oxidative Capacity by Training Is Associated with Slight Acidosis and ATP Depletion in Exercising Muscles**
Xavier Ravalec, Nathalie Le Tallec, François Carré, MD, Jacques D. de Certaines, PhD, and Elisabeth Le Rumeur, PhD
- 362 **Case of the Month: A Puzzling Case of Periodic Paralysis**
Robert C. Griggs, MD, Adam N. Bender, MD, and Rabi Tawil, MD
- 365 **Issues & Opinions: Chronic Progressive Steroid Responsive Axonal Polyneuropathy: A CIDP Variant or a Primary Axonal Disorder?**
Antonino Uncini, MD, Mario Sabatelli, MD, Teresa Mignogna, MD, Alessandra Lugaesi, MD, PhD, Rocco Liguori, MD, and Pasquale Montagna, MD
- 372 **Issues & Opinions: Axonal CIDP: A Premature Concept?**
Thomas E. Feasby, MD

SHORT REPORTS

- 375 **Age and Guillain-Barré Syndrome Severity**
Raj D. Sheth, MD, Jack E. Riggs, MD, Gerald R. Hobbs, PhD, and Ludwig Gutmann, MD
- 378 **Deletion Analysis of SMN and NAIP Genes in Spinal Muscular Atrophy Italian Families**
Francesca Capon, BS, Chiarina Levato, BS, Sabrina Semprini, BS, Antonio Pizzuti, MD, Luciano Merlini, MD, Giuseppe Novelli, PhD, and Bruno Dallapiccola, MD
- 381 **Quantitative Thermal Perception Testing in Preschool Children**
Max J. Hilz, MD, Susanne E. Glorius, Gisela Schweibold, Irene Neuner, Brigitte Stemper, and Felicia B. Axelrod, MD
- 384 **Acoustic Myography During Isometric Fatigue in Postpolio and Control Subjects**
Arthur A. Rodriguez, MD, MS, James C. Agre, MD, PhD, Todd M. Franke, PhD, Eileen R. Swiggum, COTA, and Joel T. Curt, BS
- 388 **Complications of Intravenous Gammaglobulin in Neuromuscular and Other Diseases**
Tulio E. Bertonini, MD, Adriana M. Nance, Linda H. Horner, William Greene, PharmD, Michael S. Gelfand, MD, and J. Howard Jaster, MD
- 392 **AAEM Practice Topics: Technology Assessment: The Use of Surface EMG in the Diagnosis and Treatment of Nerve and Muscle Disorders**
Andrew J. Haig, MD, Jeffrey B. Gelblum, MD, James J. Rechten, DO, PhD, and Andrew J. Gitter, MD
- 396 **AAEM Practice Topics: Technology Assessment: Dynamic Electromyography in Gait and Motion Analysis**
James J. Rechten, DO, PhD, Jeffrey B. Gelblum, MD, Andrew J. Haig, MD, and Andrew J. Gitter, MD

REGULAR FEATURES

- 403 **Letters to the Editor**
- 408 **Book Reviews**
- 410 **Calendar of Events**
- 412 **AAEM News and Comments**

APRIL 1996**MAIN ARTICLES**

- 415 **The Critical Importance of Stimulus Intensity in Intraoperative Monitoring for Partial Dorsal Rhizotomy**
Eric L. Logigian, MD, Jeremy M. Shefner, MD, PhD, Liliana Goumnerova, MD, R. Michael Scott, MD, Sulpicio G. Soriano, MD, and Joseph Madsen, MD
- 423 **Fibrosis and Intercellular Collagen Connections from Four Weeks of Muscle Strains**
William T. Stauber, PhD, Kathleen K. Knack, DO, Gerald R. Miller, BS, and Juanita G. Grimmett, BS
- 431 **Ulnar Neuropathy and Dystonic Flexion of the Fourth and Fifth Digits: Clinical Correlation in Musicians**
Michael E. Charness, MD, Marjorie H. Ross, MD, and Jeremy M. Shefner, MD, PhD
- 438 **"Sunbath Polyneuritis": Subacute Axonal Neuropathy in Perazine-Treated Patients After Intense Sun Exposure**
Ulrich Roelcke, MD, Christiane Hornstein, MD, Ernst Hund, MD, Horst P. Schmitt, MD, Rainer Siess, MD, Matthias Kaltenmaier, MD, Jakob Fässler, MD, and Hans-M. Meinck, MD
- 442 **Dermatomal/Segmental Somatosensory Evoked Potential Evaluation of L5/S1 Unilateral/Unilevel Radiculopathies**
Daniel Dumitru, MD, and Paul Dreyfuss, MD
- 450 **Slow Calcium Current Is Not Reduced in Malignant Hyperthermic Porcine Myotubes**
Esther M. Gallant, PhD, Edward M. Balog, PhD, and Kurt G. Beam, PhD

- 456 Muscle Fatigue, Lactate, and Pyruvate in Mitochondrial Myopathy with Progressive External Ophthalmoplegia**
Reinhard Dengler, MD, Kai Wohlfarth, MD, Stephan Zierz, MD, Michael Jöbges, MD, and Margot Schubert, MD
- 463 Acute Painful Diabetic Neuropathy Following Severe Weight Loss**
Fernando Castellanos, MD, Javier Mascias, MD, Juan A. Zabala, MD, Cinta Ricart, MD, Ana Cabello, MD, and Antonio Garcia-Merino, MD
- 468 Motor Cortex Excitability During Ballistic Forearm and Finger Movements**
Kerry R. Mills, PhD, FRCP, and Vasilios Kimiskidis, MD
- 474 Inflammatory Infiltrates in Sural Nerve Biopsies in Guillain-Barré Syndrome and Chronic Inflammatory Demyelinating Neuropathy**
Beate Schmidt, MD, Klaus V. Toyka, MD, Reinhard Kiefer, MD, Jens Full, MD, Hans-Peter Hartung, MD, and John Pollard, MD
- 488 Extrafusal and Intrafusal Muscle Effects in Experimental Botulinum Toxin-A Injection**
Raymond L. Rosales, MD, Kimiyoshi Arimura, MD, Satoshi Takenaga, MD, and Mitsuhiro Osame, MD
- 497 Time Course of Muscle Atrophy and Recovery Following a Phenol-Induced Nerve Block**
Sue C. Bodine-Fowler, PhD, Stephen Allsing, MD, and Michael J. Botte, MD
- 505 Case of the Month: Neuromyotonia, Peripheral Neuropathy and Myasthenia Gravis**
Paolo Martinelli, MD, Alberto Patuelli, MD, Chiara Minardi, MD, Adriana Cau, MD, Anna M. Riviera, MD, and F. Dal Pozzo, MD
- 511 Case of the Month: A Clinical Trial of Verapamil in Amyotrophic Lateral Sclerosis**
R.G. Miller, MD, S.A. Smith, MD, J.R. Murphy, PhD, James R. Brinkmann, MSPT, Joretta Graves, MSPT, Michelle Mendoza, RPT, BS, M.L. Sands, PhD, and S.P. Ringel, MD

SHORT REPORTS

- 516 Critical Care Myopathy: An Electrophysiological and Histological Study**
Mark W. Faragher, B MED SC, MB, BS, Bruce J. Day, MB, BS, FRACP, and Xenia Dennett, PhD
- 519 Tissue Distribution of Mutant Mitochondrial DNA in a Patient with MERRF Syndrome**
Rou-Shayn Chen, MD, Chin-Chang Huang, MD, Nai-Shin Chu, PhD, Chun-Che Chu, MD, Kwang-Dar Shih, Cheng-Yoong Pang, and Yau-Huei Wei, PhD
- 522 Meralgia Paraesthetica: Differential Diagnosis and Follow-Up**
Marinus J. Wiezer, Hessel Franssen, MD, Gabriël J.E. Rinkel, MD, and John H.J. Wokke, MD
- 525 Compressive Ulnar Neuropathy in the Proximal Forearm Caused by a Gouty Tophus**
Han-Cheng Wang, MD, and Ming-Dar Tsai, MD
- 528 IgM M-Protein with Antibody Activity Against Gangliosides with Disialosyl Residue in Sensory Neuropathy Binds to Sensory Neurons**
Nobuyuki Oka, MD, Hirofumi Kusaka, MD, Susumu Kusunoki, MD, Hiroshi Tsuda, MD, Ryuji Kaji, MD, Terukuni Imai, MD, Ichiro Akiguchi, MD, and Jun Kimura, MD

REGULAR FEATURES

- 531 Letters to the Editor**
- 539 Book Review**
- 540 Books Received**
- 541 Calendar of Events**
- 543 AAEM News and Comments**

MAIN ARTICLES

- 549 Quadriceps Strength and Fatigue Assessed by Magnetic Stimulation of the Femoral Nerve in Man**
Michael I. Polkey, MB, MRCP, Dimitris Kyroussis, MD, Carl H. Hamnegard, MD, Gary H. Mills, MB, FRCA, Malcolm Green, MD, FRCP, and John Moxham, MD, FRCP
- 556 Comparison of Standard Autonomic Tests and Power Spectral Analysis in Normal Adults**
Dieter Linden, MD, and Rolf R. Diehl, PhD
- 563 Rank-Ordered Regulation of Motor Units**
Zeynep Erim, PhD, Carlo J. De Luca, PhD, Kiyoshi Mineo, MD, and Takafumi Aoki, MD
- 574 Heat-Shock Protein 90 and Ubiquitin: Developmental Regulation During Myogenesis**
Liza Bornman, PhD, Barbara S. Polla, MMed, MD, George S. Gericke, MMed, FCP, MD
- 581 Abolition of Sympathetic Skin Responses Following Endoscopic Thoracic Sympathectomy**
Jean-Pascal Lefaucheur, MD, Marc Fitoussi, MD, and Jean-Pierre Becquemin, MD
- 587 Broad A Band Disease: A New, Benign Congenital Myopathy**
Robert E. Mruk, MD, PhD, May Griebel, MD, and Michael C. Brodsky, MD
- 595 Improved Methodology for Lumbosacral Nerve Root Stimulation**
Walter Troni, MD, Chiara Bianco, MD, Mario Coletti Moja, MD, and Michele Dotta, MD
- 605 Muscle Fiber Type Correlates with Innervation Topography in the Rat Serratus Anterior Muscle**
Wade A. Grow, PhD, Eydie Kendall-Wassmuth, Matthew S. Grober, PhD, Catherine Ulibarri, PhD, and Michael B. Laskowski, PhD
- 614 Transcortical and Cervical Magnetic Stimulation with Recording of the Diaphragm**
Udo Zifko, MD, Hussein Remtulla, BSc, RT (EMG), Kevin Power, CET(BMET), Linda Harker, MD, and Charles F. Bolton, MD, FRCP(C)
- 621 Reduced Oxidative Muscle Metabolism in Chronic Fatigue Syndrome**
Kevin K. McCully, PhD, Benjamin H. Natelson, MD, Stefano Iotti, PhD, Sueann Sisto, PT, and John S. Leigh, Jr, PhD
- 626 Motor Unit Estimates Obtained Using the New "MUESA" Method**
Michael Slawnych, PhD, Charles Laszlo, PhD, and Cecil Hershler, PhD, MD, FRCP(C)
- 637 Anti-MAG and Anti-SGPG Antibodies in Neuropathy**
Leonard H. van den Berg, MD, Arthur P. Hays, MD, Eduardo Nobile-Orazio, MD, Lawrence J. Kinsella, MD, Emanuela Manfredini, MD, Massimo Corbo, MD, Gorazd Rosoklija, MD, David S. Younger, MD, Robert E. Lovelace, MD, Werner Trojaborg, MD, PhD, Dale E. Lange, MD, Steven Goldstein, MD, Joel S. Delfiner, MD, Saud A. Sadiq, MD, William H. Sherman, MD, and Norman Latov, MD, PhD
- 644 Case of the Month: Focal Posterior Interosseous Neuropathy in the Presence of Hereditary Motor and Sensory Neuropathy, Type I**
Gregory T. Carter, MD, David D. Kilmer, MD, Robert M. Szabo, MD, and Craig M. McDonald, MD
- 649 Case of the Month: Spastic Paraparesis and Sensory Neuropathy**
Silvia N. Tenenbaum, MD, Ricardo C. Reisin, MD, Ana L. Taratuto, MD, and Natalio Fejerman, MD

SHORT REPORTS

- 654 Motor Control of the Diaphragm in Multiple Sclerosis**
S. Jayne Garland, PhD, Barbara A. Lavoie, BSc(PT), and William F. Brown, MD
- 657 The Effect of Wrist Position on the Conduction Velocity of the Ulnar Nerve**
S.B. Rutkove, MD, M.J. Kothari, DO, C. Sampson, MD, and D.C. Preston, MD
- 659 Spinal Cord Potentials After Transcranial Magnetic Stimulation During Muscle Contraction**
Kazuo Kaneko, MD, Shinya Kawai, MD, Yasunori Fuchigami, MD, Gen Shiraishi, MD, and Takashi Ito, MD

- 662 **The Cervical Radiculopathy Screen: Optimizing the Number of Muscles Studied**
CPT(P) Tamara D. Lauder, MD, MC, and Timothy R. Dillingham, MD, MS
- 666 **Multifocal Motor Neuropathy: A Source of Error in the Serial Evaluation of Conduction Block**
Alberto Cappellari, MD, Eduardo Nobile-Orazio, MD, PhD, Nicoletta Meucci, MD, Guglielmo Scarlato, MD, and Sergio Barbieri, MD, PhD
- 670 **Restless Legs Syndrome in Patients with Polyneuropathy**
Seward B. Rutkove, MD, Jean K. Matheson, MD, and Eric L. Logigian, MD
- 673 **Lumbrical-Interosseous Comparison in a Distal Ulnar Nerve Lesion**
Geoffrey L. Sheean, FRACP, Gorande Kanabar, MD, and Nicholas M.F. Murray, FRCP
- REGULAR FEATURES**
- 675 **Letters to the Editor**
- 682 **Calendar of Events**
- 685 **AAEM News and Comments**

JUNE 1996

MAIN ARTICLES

- 689 **Large Electrodes Improve Nerve Conduction Repeatability in Controls As Well As in Patients with Diabetic Neuropathy**
Aimée M.L. Tjon-A-Tsien, MD, Herman H.P.J. Lemkes, MD, PhD, Antoinette J.C. van der Kamp-Huys, REEGT, and Gert van Dijk, MD, PhD
- 696 **Neuromuscular Complications Associated with Liver Transplantation**
Eelco F.M. Wijdicks, MD, William J. Litchy, MD, Russell H. Wiesner, MD, and Ruud A.F. Krom, MD
- 701 **Injury Zone Denervation in Traumatic Quadriplegia in Humans**
Stephen A. Berman, MD, Robert R. Young, MD, Mehdi Sarkarati, MD, and Jeremy M. Shefner, MD, PhD
- 707 **Neural Influence on Slow Muscle Properties: Inactivity with and without Cross-Reinnervation**
Roland R. Roy, PhD, Lynn Eldridge, PhD, Kenneth M. Baldwin, PhD, and V. Reggie Edgerton, PhD
- 715 **Combined Electromyography-³¹P-Magnetic Resonance Spectroscopy Study of Human Muscle Fatigue During Static Contraction**
D. Bendahan, PhD, Y. Jammes, MD, PhD, A.M. Salvan, MD, M. Badier, MD, S. Confort-Gouny, PhD, C. Guillot, MD, and P.J. Cozzzone, PhD
- 722 **Diabetic Peripheral Neuropathy: A Clinicopathologic and Immunohistochemical Analysis of Sural Nerve Biopsies**
D.S. Younger, MD, G. Rosoklija, MD, A.P. Hays, MD, W. Trojaborg, MD, DSci, and N. Latov, MD, PhD
- 728 **Fatigue of Chronically Overused Motor Units in Prior Polio Patients**
Lennart Grimby, MD, PhD, Anna Tollbäck, PT, PhD, Ulricka Müller, MT, and Lars Larsson, MD, PhD
- 738 **Muscle Strength in Postpolio Patients: A Prospective Follow-Up Study**
Barbara Ivanyi, MD, Patty J. Nelemans, MD, PhD, Rob de Jongh, PhD, Bram W. Ongerboer de Visser, MD, PhD, and M. de Visser, MD, PhD
- 743 **Electrophysiological Findings in a Danish Family with Machado-Joseph Disease**
Eskild Colding-Jørgensen, MD, Sven Asger Sørensen, MD, Lis Hasholt, DMSc, and Martin Lauritzen, MD
- 751 **Muscle-Nerve Involvement in Autosomal Dominant Progressive External Ophthalmoplegia with Hypogonadism**
Atle Melberg, MD, Olov Lundberg, MD, PhD, Karl G. Henriksson, MD, PhD, Yngve Olsson, MD, PhD, and Erik Stålberg, MD, PhD
- 758 **Electrophysiological Tests of Autonomic Function in Patients with Idiopathic Autonomic Failure Syndromes**
John Ravits, MD, Mark Hallett, MD, Jan Nilsson, BSEE, Ronald Polinsky, MD, and James Dambrosia, PhD

- 764 **Impairment of Muscle Mitochondrial Oxidative Metabolism in McArdle's Disease**
Nicola De Stefano, MD, Zohar Argov, MD, Paul M. Matthews, MD, DPhil,
George Karpati, MD, and Douglas L. Arnold, MD
- 770 **Case of the Month: Hereditary Neuropathy with Liability to Pressure Palsies:
Association with Central Nervous System Demyelination**
Anthony A. Amato, MD, and Richard J. Barohn, MD

SHORT REPORTS

- 774 **Mechanism of Electrically Elicited Muscle Vibrations in the In Situ Cat
Soleus Muscle**
Marco A. Vaz, BSc, Walter Herzog, PhD, Yuan-Ting Zhang, PhD, Tim R. Leonard, BSc,
and Hoa Nguyen
- 777 **Assessment of Whole Body Composition with Dual Energy X-Ray Absorptiometry
in Duchenne Muscular Dystrophy: Correlation of Lean Body Mass with
Muscle Function**
Genaro M.A. Palmieri, MD, Tulio E. Bertorini, MD, Judy W. Griffin, MS, PT,
Masanori Igarashi, MD, and James G. Karas, MS
- 780 **A Predominantly Motor Polyradiculopathy of Lyme Disease**
Stephen N. Scelsa, MD, Steven Herskovitz, MD, and Alan R. Berger, MD
- 784 **Segmental Zoster Paresis: An Electrophysiological Study**
George M. Sachs, MD, PhD
- 787 **Inclusion Body Myositis Associated with a Severe Unilateral
Levodopa-Responsive Upper Extremity Tremor**
Kevin J. Felice, DO, and Margaret L. Grunnet, MD
- 790 **Mushroom Myopathy**
Jorge Gonzalez, MD, David Lacomis, MD, and David J. Kramer, MD

REGULAR FEATURES

- 793 **Letters to the Editor**
- 801 **Book Review**
- 802 **Books Received**
- 803 **Calendar of Events**
- 805 **Errata**
- 806 **AAEM News and Comments**

JULY 1996

MAIN ARTICLES

- 811 **AAEM Minimonograph #46: Neurogenic Muscle Hypertrophy**
Ludwig Gutmann, MD
- 819 **Urinary Dysfunction in Duchenne Muscular Dystrophy**
James B. Caress, MD, Milind J. Kothari, DO, Stuart B. Bauer, MD, and
Jeremy M. Shefner, MD, PhD
- 823 **Persistent Increased Threshold of Electrical Stimulation Selective to Motor Nerve
in Multifocal Motor Neuropathy**
Takanori Yokota, MD, Yukinobu Saito, MD, Nobuhiro Yuki, MD, and Hiroaki Tanaka, MD
- 829 **Increased Interferon- γ mRNA Expression Following Alloincompatible Myoblast
Transplantation Is Inhibited by FK506**
Benoît Guérette, MSc, Geneviève Tremblay, BSc, Jean Thomas Vilquin, PhD,
Isabelle Asselin, MSc, Marc Gingras, BSc, Raynald Roy, PhD, and
Jacques P. Tremblay, PhD
- 836 **Surface Potentials Generated by Synchronous Activation of Different Fractions of
the Motor Pool**
A.R. Hughes, MB BS, FRACP, and J.G. Colebatch, MB BS, PhD, FRACP
- 843 **Köbberling-Dunnigan Syndrome: A Rare Cause of Generalized
Muscular Hypertrophy**
Susanne Wildermuth, MD, Stephanie Spranger, MD, Matthias Spranger, MD,
Friedhelm Raue, MD, and Hans-Michael Meinck, MD

- 848 Axon Reflexes or Ephaptic Responses Simulating Blink Reflex R1 After XII-VII Nerve Anastomosis**
J. Montero, MD, J. Serra, MD, and L. Montserrat, MD
- 853 Rapid Death of Injected Myoblasts in Myoblast Transfer Therapy**
Ying Fan, MB BS, MMed(Path), Moira Maley, PhD, Manfred Beilharz, PhD, and Miranda Grounds, PhD
- 861 Quantitation of Central Activation Failure During Maximal Voluntary Contractions in Humans**
Jane A. Kent-Braun, PhD, and Roland le Blanc, BS
- 870 Myotonia in Colchicine Myoneuropathy**
Seward B. Rutkove, MD, Umberto De Girolami, MD, David C. Preston, MD, Roy Freeman, MD, Rachel A. Nardin, MD, Gunnar K. Gouras, MD, Donald R. Johns, MD, and Elizabeth M. Raynor, MD
- 876 Pediatric Radial Mononeuropathies: A Clinical and Electromyographic Study of Sixteen Children with Review of the Literature**
Diana M. Escolar, MD, and H. Royden Jones, Jr., MD
- 884 Obstetrical Brachial Plexus Palsy (OBPP) Outcome with Conservative Management**
Gloria D. Eng, MD, Helga Binder, MD, Pamela Getson, PhD, and Regina O'Donnell, BA
- 892 Case of the Month: Nerve Root Hypertrophy As the Cause of Lumbar Stenosis in Chronic Inflammatory Demyelinating Polyradiculoneuropathy**
Jonathan M. Goldstein, MD, Becky J. Parks, MD, Peter L. Mayer, MD, Jung H. Kim, MD, Gordon Sze, MD, and Robert G. Miller, MD

SHORT REPORTS

- 897 Acute Focal Neuropathy in Male Weight Lifters**
Shawn J. Bird, MD, and Mark J. Brown, MD
- 900 Molecular and Clinical Analysis on Muscle Wasting in Patients with Spinocerebellar Ataxia Type 1**
K. Abe, MD, T. Kameya, MD, M. Tobita, MD, H. Konno, MD, and Y. Itoyama, MD
- 903 Electrophysiological and Clinical Correlations in the Lambert-Eaton Myasthenic Syndrome**
Shin J. Oh, MD, Doo E. Kim, MD, Reha Kuruoglu, MD, Jordan Brooks, MD, and Gwendolyn Claussen, MD
- 907 Spinal Accessory Nerve Injury: A Complication of Carotid Endarterectomy**
Pratap M. Yagnik, MD, and Peter Siao Tick Chong, MD
- 910 Latency of Onset of the Masseter Inhibitory Reflex in Peripheral Neuropathies**
Raymond G. Auger, MD, FRCP(C)
- 912 In Vivo Bioluminescent Technique in Control and mdx Dystrophic Mice**
Carlo D. Ausenda, MD, Nereo Bresolin, MD, Alberto De Liso, MD, M. Grazia D'Angelo, MD, Maurizio Moggio, MD, Roberto Del Bo, PhD, Andrea Gallanti, MD, Giacomo P. Corni, MD, Yvan Torrente, MD, Andreina Bordoni, BS, and Guglielmo Scarlato, MD
- 915 H Reflex in S-1 Radiculopathy: Latency versus Amplitude Controversy Revisited**
Takashi Nishida, MD, Aikaterini Kompoliti, MD, Imke Janssen, PhD, and Karen F. Levin, MD
- 918 Measurement of Muscle Fiber Conduction Velocity by Surface Electromyograph Triggered Averaging Technique**
Jianjun Fang, MS, Bhagwan T. Shahani, MD, DPhil (Oxon), FACP, and Upinder K. Dhand, MD
- 920 An Unusual Presentation of a Traumatic Ulnar Mononeuropathy with a Martin-Gruber Anastomosis**
Wade S. Kingery, MD, Peter B.J. Wu, MD, MPH, and Elaine S. Date, MD
- 923 Anomalous Superficial Radial Sensory Innervation of the Ulnar Dorsum of the Hand: A Cause of "Paradoxical" Preservation of Ulnar Sensory Function**
Leo F. McCluskey, MD

**REGULAR
FEATURES**

- 926 Letters to the Editor
932 Calendar of Events
935 AAEM News and Comments

AUGUST 1996

MAIN ARTICLES

- 939 **AAEM Case Report #13: Diabetic Amyotrophy**
Sudhansu Chokroverty, MB BS, FRCP, and Howard W. Sander, MD
- 946 **Functional Abnormalities in P₀-Deficient Mice Resemble Human Hereditary Neuropathies Linked to P₀ Gene Mutations**
Jürgen Zielasek, MD, Rudolf Martini, PhD, and Klaus V. Toyka, MD
- 953 **Cortical and Spinal Mechanisms of Facilitation to Brain Stimulation**
Kerry R. Mills, PhD, FRCP, and Vasilios Kimiskidis, MD
- 959 **Acute Effects of Intravenous Injection of Beta-Adrenoreceptor- and Calcium Channel Antagonists and Agonists in Myasthenia Gravis**
Iris Jonkers, Med Stud, Christer Swerup, MD, PhD, Ritva Pirsanen, MD, PhD, Sapko Bjelak, MD, and Georg Matell, MD, PhD
- 966 **Motor Control After Spinal Cord Injury: Assessment Using Surface EMG**
Arthur M. Sherwood, PE, PhD, W. Barry McKay, BS, and Milan R. Dimitrijević, MD, DSc
- 980 **Myosin Heavy Chain Profile of Cat Soleus Following Chronic Reduced Activity or Inactivity**
Robert J. Talmadge, PhD, Roland R. Roy, PhD, and V. Reggie Edgerton, PhD
- 989 **Endplate Dysfunction in Healthy Muscle Following a Period of Disuse**
Erick A. Grana, MD, Faye Chiou-Tan, MD, and M. Mazher Jaweed, PhD
- 994 **External Calcium Dependence of Extensor Digitorum Longus Muscle Contractility During Bupivacaine-Induced Regeneration**
Jean-Pierre Louboutin, MD, Valérie Fichter-Gagnepain, MD, and Jacques Noireaud, PhD
- 1003 **Slow Motor Conduction Mainly Limited to Motor Root in Amyotrophic Lateral Sclerosis**
Mustafa Ertaş, MD, Burhanettin Uludağ, MD, and Cumhur Ertekin, PROF
- 1009 **Neuropathy and Mortality in Diabetes: Influence of Pancreas Transplantation**
Xavier Navarro, MD, PhD, William R. Kennedy, MD, Dorothee Aeppli, PhD, and David E.R. Sutherland, MD, PhD
- 1017 **Effect of Fatiguing Maximal Voluntary Contraction on Excitatory and Inhibitory Responses Elicited by Transcranial Magnetic Motor Cortex Stimulation**
W. Barry McKay, BS, Dobrovoje S. Stokic, MD, Arthur M. Sherwood, PhD, Gerta Vrbova, MD, and Milan R. Dimitrijevic, MD, DSc
- 1025 **Depolarization Accelerates the Decay of K⁺ Contractures in Rat Skeletal Muscle Fibers**
Michael F. Patterson, PhD, Jorgen Mould, BSc, Hons, and Angela F. Dulhunty, PhD, DSc
- 1037 **Case of the Month: A Syndrome of Concurrent Central and Peripheral Nervous System Involvement Due to Epstein-Barr Virus Infection**
Joel C. Morgenlander, MD

SHORT REPORTS

- 1040 **Necrotizing Inflammatory Myopathy Associated with Localized Scleroderma**
John W. Dunne, MB BS, (HONS), FRACP, Norbert Heye, MD, Robert H. Edis, MB BS, FRACP, and Byron A. Kakulas, AO, MD (Hon Athens), MD (WA), FRACP, FRCPath, FRCPA
- 1043 **Intracortical Facilitation of the Muscle Response After Transcranial Magnetic Double Stimulation**
Kazuo Kaneko, MD, Shinya Kawai, MD, Yasunori Fuchigami, MD, Gen Shiraishi, MD, and Takashi Ito, MD

- 1046 **Extent of Motor Unit Activation in the Quadriceps Muscles of Healthy Subjects**
Esther Suter, PhD, Walter Herzog, PhD, and Allene Huber
- 1049 **Long-Term Effects of Finger Amputation on Stump Skin Sensibility and Digital Nerve Conduction**
Nai-Shin Chu, MD
- 1052 **Extensive Leukemic Cell Infiltration into Skeletal Muscles**
Koichi Okamoto, MD, Shunsaku Hirai, MD, and Manabu Honma, MD

REGULAR FEATURES

- 1055 **Letters to the Editor**
- 1061 **Calendar of Events**
- 1064 **AAEM News and Comments**

SEPTEMBER 1996

MAIN ARTICLES

- 1069 **AAEM Minimonograph #25: Single-Fiber Electromyography**
Donald B. Sanders, MD, and Erik V. Stålberg, MD, PhD
- 1084 **Effects of Length Changes on Na^+ Current Amplitude and Excitability Near and Far from the End-Plate**
Robert L. Ruff, MD, PhD
- 1093 **Brain Stem Reflexes in Patients with Wallenberg's Syndrome: Correlation with Clinical and Magnetic Resonance Imaging (MRI) Findings**
Josep Valls-Solé, MD, Nicolás Vila, MD, Victor Obach, MD, Ramiro Alvarez, MD, Luis Ernesto Gonzáles, MD, and Angel Chamorro, MD
- 1100 **Properties of Sprouted Rat Motor Units: Effects of Period of Enlargement and Activity Level**
Kevin L. Seburn, PhD, and Phillip F. Gardiner, PhD
- 1110 **Effects of Femoral Nerve Stimulation on the Electromyogram and Reflex Excitability of Tibialis Anterior and Soleus**
Sabine Meunier, MD, PhD, Ilona Mogyoros, MD, Matthew C. Kiernan, MB, BS, and David Burke, MD, DSc
- 1116 **Single Channel Evidence for a Cytoskeletal Defect Involving Acetylcholine Receptors and Calcium Influx in Cultured Dystrophic (MDX) Myotubes**
C. George Carlson, PhD, and Todd Officer, MS
- 1127 **Repetitive CMAPs: Mechanisms of Neural and Synaptic Genesis**
J. Gert van Dijk, MD, PhD, Gert Jan Lammers, MD, Axel R. Wintzen, MD, PhD, and Peter C. Molenaar, PhD
- 1134 **Molecular Basis of Muscle Phosphoglycerate Mutase (PGAM-M) Deficiency in the Italian Kindred**
Antonio Toscano, MD, Seiichi Tsujino, MD, Giuseppe Vita, MD, Sara Shanske, PhD, Corrado Messina, MD, and Salvatore DiMauro, MD
- 1138 **Abductor Hallucis False Motor Points: Electrophysiologic Mapping and Cadaveric Dissection**
David R. Del Toro, MD, and Tracy A. Park, MD
- 1144 **Elevated Levels of Complement Components C5 and C9 and Decreased Antitrypsin Activity in the Serum of Patients with X-Linked Vacuolated Myopathy**
J.-P. Louboutin, MD, M. Villanova, MD, G. Ulrich, MD, L.S. De Clerck, MD, M. Fardeau, MD, and M. Sagniez, MD
- 1148 **Mobius Syndrome: Electrophysiologic Studies in Seven Cases**
Safwan Jaradeh, MD, O'Neill D'Cruz, MD, James F. Howard, Jr, MD, Thomas J. Haberkamp, MD, and Richard J. Konkol, MD, PhD
- 1154 **Duchenne Phenotype with In-Frame Deletion Removing Major Portion of Dystrophin Rod: Threshold Effect for Deletion Size?**
Marina Fanin, MS, Maria Pia Freda, MS, Libero Vitiello, PhD, Gian Antonio Danieli, MS, Elena Pegoraro, MD, and Corrado Angelini, MD

- 1161 **Case of the Month: Isolated Vitamin E Deficiency**
Carlayne E. Jackson, MD, Anthony A. Amato, MD, and Richard J. Barohn, MD

SHORT REPORTS

- 1166 **Specificity of Autoantibodies React with (ω)-Conotoxin MVIC-Sensitive Calcium Channel in Lambert-Eaton Myasthenic Syndrome**
Akihito Suenaga, MD, Susumu Shirabe, MD, Tatsufumi Nakamura, MD, Masakatsu Motomura, MD, Mitsuhiro Tsujihata, MD, Hidenori Matsuo, MD, Yasufumi Kataoka, PhD, Masami Niwa, MD, Masao Itoh, MD, and Shigenobu Nagataki, MD
- 1169 **Nerves and Muscles of Patients After Multipolar Sequential Phrenic Nerve Stimulation**
Gerhard A. Baer, MD, Hannu Kalimo, MD, Gerhard Exner, MD, Pasi P. Talonen, PhD, and Simo Jaakkola, MD
- 1171 **Stimulated Single-Fiber Electromyography in Wound Botulism**
Raul N. Mandler, MD, and Ricardo A. Maselli, MD
- 1174 **Acquired Demyelinating Polyneuropathy Presenting as a Pure Clinical Sensory Syndrome**
Zachary Simmons, MD, and Sanjeevi Tivakaran, MD
- 1177 **Treatment with Ciliary Neurotrophic Factor Does Not Improve Regeneration in Experimental Autoimmune Neuritis of the Lewis Rat**
Ralf Gold, MD, Jürgen Zielasek, MD, J. Michael Schröder, MD, Bernd Sellhaus, MD, Jesse Cedarbaum, MD, Hans-Peter Hartung, MD, Michael Sendtner, MD, and Klaus V. Toyka, MD
- 1181 **Neuralgic Amyotrophy Misdiagnosed as Diaphragmatic Rupture**
Said R. Beydoun, MD, and Rodrigo Rodriguez, MD
- 1183 **Nonrandom Behavior in a Reaction-Time Time Series**
Douglas S. Goodin, MD, and Michael J. Aminoff, MD
- 1186 **Acetylcholine Receptor Antibodies as a Marker of Treatable Fatigue in HIV-1 Infected Individuals**
Edward J. Cupler, MD, Carlos Otero, MD, Karen Hench, MS, RN, Carlos Luciano, MD, and Marinos C. Dalakas, MD

**SPECIAL
FEATURE**

- 1189 **Abstracts of Poster and Platform Presentations: 43rd Annual Meeting, American Association of Electrodiagnostic Medicine, Minneapolis, Minnesota, October 3-5, 1996**

**REGULAR
FEATURES**

- 1227 **Letters to the Editor**
- 1232 **Calendar of Events**
- 1235 **AAEM News and Comments**

OCTOBER 1996

MAIN ARTICLES

- 1239 **Lambert Lecture: Immunotherapy in Neuromuscular Disorders: Current and Future Strategies**
Daniel B. Drachman, MD
- 1252 **Acoustic and Electrical Activities During Voluntary Isometric Contraction of Biceps Brachii Muscles in Patients with Spastic Cerebral Palsy**
K. Akataki, PhD, K. Mita, PhD, K. Itoh, MS, N. Suzuki, MD, PhD, and M. Watakabe, PhD
- 1258 **Acetylcholine Receptor and Calcium Leakage Activity in Nondystrophic and Dystrophic Myotubes (MDX)**
C. George Carlson, PhD
- 1268 **Abnormal Axonal Inward Rectification in Diabetic Neuropathy**
Sabine Horn, Stefan Quasthoff, MD, Peter Grafe, MD, PhD, Hugh Bostock, PhD, Rolf Renner, MD, and Berthold Schrank, MD

- 1276 Pitcher's Arm: An Electrodiagnostic Enigma**
Randall R. Long, MD, PhD, Jane C. Sargent, MD, Arthus M. Pappas, MD, and Kathryne Hammer, REDT
- 1282 Strength Gains Without Muscle Injury After Strength Training in Patients with Postpolio Muscular Atrophy**
Sidney A. Spector, MD, PhD, Patricia L. Gordon, RN, Irwin M. Feuerstein, MD, Kumaraswamy Sivakumar, MD, Ben F. Hurley, PhD, and Marinos C. Dalakas, MD
- 1291 Leukemia Inhibitory Factor and Interleukin-6 Are Produced by Diseased and Regenerating Skeletal Muscle**
John B. Kurek, BSC(HONS), Sara Nouri, BSC, George Kannourakis, MBBS, PhD, Mark Murphy, PhD, and Lawrence Austin, PhD
- 1302 The Role of Cutaneous Inputs During Magnetic Transcranial Stimulation**
Paolo M. Rossini, MD, Franca Tecchio, PhD, Alessandro Sabato, MD, Alessandro Finazzi-Agrò, MD, Patrizio Pasqualetti, PhD, and Simone Rossi, MD
- 1310 Monopolar Needle Electrode Spatial Recording Characteristics**
John C. King, MD, Daniel Dumitru, MD, and Dick Stegeman, PhD
- 1320 Limited Fiber Type Grouping in Self-Reinnervation Cat Tibialis Anterior Muscles**
Graciela A. Unguez, PhD, Roland R. Roy, PhD, Sue Bodine-Fowler, PhD, and V. Reggie Edgerton, PhD
- 1328 Lambert-Eaton Myasthenic Syndrome Presenting with Severe Respiratory Failure**
Michael W. Nicolle, MD, D Phil, Dwight J. Stewart, MD, PhD, Hussein Remtulla, BSc, RT(EMG), Robert Chen, MB B Chir, MSc, and Charles F. Bolton, MD
- 1334 Motor Neuron Disease, Lymphoproliferative Disease, and Bone Marrow Biopsy**
Elan D. Louis, MD, MS, Ann E. Hanley, MD, Thomas H. Brannagan, MD, William Sherman, MD, Peregrine Murphy, MS, Dale J. Lange, MD, Werner Trojaborg, MD, PhD, David S. Younger, MD, Robert E. Lovelace, MD, Norman Latov, MD, PhD, and Lewis P. Rowland, MD
- 1338 Case of the Month: Neuromyotonia and Type I Myofiber Predominance in Amyloidosis**
Laurie Gutmann, MD, Ludwig Gutmann, MD, and Sydney S. Schochet, MD
- 1342 Issues & Opinions: The Relative Sensitivity of F Wave and H Reflex to Changes in Motoneuronal Excitability**
A. Arturo Leis, MD, Ivana Štětkařová, MD, PhD, Aleksandar Berić, MD, DSc, and Dobrivoje S. Stokić, MD
- 1345 Issues & Opinions: Are H Reflexes and F Responses Equally Sensitive to Changes in Motoneuronal Excitability?**
Morris A. Fisher, MD
- 1347 Issues & Opinions: Comments**
Hans Hultborn, MD, and Jens B. Nielsen, MD

SHORT REPORTS

- 1349 Amyloid Deposition in the Synovium and Ligament in Idiopathic Carpal Tunnel Syndrome**
Ken-Ichi Nakamichi, MD, and Shintaro Tachibana, MD
- 1352 Peripheral Nerve Involvement in Polymyalgia Rheumatica**
Martin S. Schwartz, MD, FRCP, and Felix E. Bruckner, FRCP
- 1354 The Effect of Stimulus Duration on the Latency of Submaximal Nerve Volleys**
Ilona Mogyoros, MD, Matthew C. Kiernan, MB, BS, Jean-Michel Gracies, MD, PhD, and David Burke, MD, DSC
- 1357 Abnormalities of the Sympathetic Skin Response in Lepromatous Leprosy**
Theodore R. Brown, MD, Apichana Kovindha, MD, Ubonwon Wathanadilokkol, MD, Trevor Smith, MD, and George H. Kraft, MD
- 1359 AAEM Practice Topics: Implanted Cardioverters and Defibrillators**
Lois Margaret Nora, MD, JD

**REGULAR
FEATURES**

- 1361 Letters to the Editor
- 1367 Book Reviews
- 1369 Calendar of Events
- 1371 AAEM News and Comments

NOVEMBER 1996

MAIN ARTICLES

- 1373 **Behavior of the H-Reflex in Humans Following Mechanical Perturbation or Injury to Rostral Spinal Cord**
A.A. Leis, MD, H.H. Zhou, MD, PhD, M. Mehta, MD, H.L. Harkey III, MD, and W.C. Paske, PhD
- 1383 **Remodeling of the Cytoskeletal Lattice in Denervated Skeletal Muscle**
Sophie Boudriau, PhD, Claude H. Côté, PhD, Michel Vincent, PhD, Patricia Houle, BSc, Roland R. Tremblay, MD, PhD, and Peter A. Rogers, PhD
- 1391 **Electrical and Mechanical Properties of Skeletal Muscle Underlying Increased Fatigue in Patients with Amyotrophic Lateral Sclerosis**
Khema R. Sharma, MD, and Robert G. Miller, MD
- 1401 **Coculture of Rat Embryonic Proprioceptive Sensory Neurons and Myotubes**
Sjef Copray, PhD, Robert Liem, PhD, Ietje Mantingh-Otter, Techn., and Nieske Brouwer, Techn.
- 1413 **Electrophysiologic and Histologic Studies in Clinically Unaffected Muscles of Patients with Prior Paralytic Poliomyelitis**
Carlos A. Luciano, MD, Kumaraswamy Sivakumar, MD, Sidney A. Spector, MD, PhD, and Marinos C. Dalakas, MD
- 1421 **Effects of External Calcium on Contractile Responses in Rat Extensor Digitorum Longus Muscles After Sciatic Nerve Injury at Birth**
Jean-Pierre Louboutin, MD, Valérie Fichter-Gagnepain, MD, and Jacques Noireaud, PhD
- 1429 **Central Fatigue Assessed by Transcranial Magnetic Stimulation**
Joachim Liepert, MD, Sylvia Kotterba, MD, Martin Tegenthoff, MD, and Jean-Pierre Malin, MD
- 1435 **Extensive Genetic Heterogeneity in the "Pure" Form of Autosomal Dominant Familial Spastic Paraplegia (Strümpell's Disease)**
Hisashi Kobayashi, MD, PhD, Carlos A. Garcia, MD, Puei-Nam Tay, BS, and Eric P. Hoffman, PhD
- 1439 **Serum of Isaacs' Syndrome Suppresses Potassium Channels in PC-12 Cell Lines**
Yoshito Sonoda, MD, Kimiyoshi Arimura, MD, Asutsugu Kurono, MD, Masahito Suehara, MD, Masaki Kameyama, MD, Seiichi Minato, MD, Akito Hayashi, MD, and Mitsuhiro Osame, MD
- 1447 **The Histochemistry of Reactive Masticatory Muscle Hypertrophy**
Denis G.F. Harriman, MD, DSc, FRCP, FRCPath
- 1457 **Anatomical and Electrophysiological Determinants of the Human Thenar Compound Muscle Action Potential**
Zoia C. Lateva, PhD, Kevin C. McGill, PhD, and Charles G. Bargar, MD
- 1469 **Fast-to-Slow Transformation in Stimulated Rat Muscle**
Jonathan C. Jarvis, BSc, PhD, Thomas Mokrusch, MD, Martin M.N. Kwende, BSc, Hazel Sutherland, BSc, and Stanley Salmons, BSc, MSc, PhD
- 1476 **Case of the Month: Computerized Tomography and Magnetic Resonance Muscle Imaging in Miyoshi's Myopathy**
Giovanni Meola, MD, Valeria Sansone, MD, Giuseppe Rotondo, MD, and Antoine Jabbour, MD

SHORT REPORTS

- 1481 **Reproducibility of Sympathetic Skin Response**
Minoru Toyokura, MD, and Keiichi Murakami, MD
- 1484 **Idiopathic Lumbosacral Neuropathy: A Cause of Persistent Leg Pain**
J.A. Hinchey, MD, D.C. Preston, MD, and E.L. Logigian, MD

- 1487 **Sympathetic Skin Responses Evoked by Magnetic Stimulation of the Neck: Normative Data**
Dieter Linden, MD, Yvonne Weng, MD, Franz X. Glocker, MD, Anke Kretzschmar, MD, Rolf R. Diehl, PhD, and Peter Berlit, MD
- 1490 **Immune Globulin Therapy in Children with Guillain-Barré Syndrome**
Philip M. Goodhew, MBBS, FRACP, and Heather M. Johnston, MBChB, FRACP
- 1493 **Muscle Shortening, Response Latency, and Conduction Velocity**
Timothy Brown, BA, Victoria Galea, PhD, and Alan J. McComas, MB
- 1496 **AAEM Practice Topics: Guidelines for Establishing a Quality Assurance Program in an Electrodiagnostic Laboratory**
Trilok N. Monga, MD

REGULAR FEATURES

- 1503 **Letters to the Editor**
- 1508 **Books Received**
- 1509 **Calendar of Events**
- 1511 **AAEM News and Comments**

DECEMBER 1996

- 1513 **Message from the Editor's Office**
- 1514 **Acknowledgments**

MAIN ARTICLES

- 1517 **AAEM Case Report #31: Paraneoplastic Sensory Neuropathy**
Rahman Pourmand, MD, and Bette G. Maybury, MD
- 1523 **Low-Rate Nerve Stimulation During Regional Ischemia in the Diagnosis of Muscle Glycogenosis**
Mauro LoMonaco, MD, Margherita Milone, MD, Enza Maria Valente, MD, Luca Padua, MD, and Pietro Tonali, MD
- 1530 **Lipid Peroxides Production After Strenuous Exercise and in Relation to Muscle Morphology and Capillarization**
M. Krokiewski, MD, PhD, and Zofia Brzezinska, PhD
- 1538 **Neural Generators of Tibial Nerve P30 Somatosensory Evoked Potential Studied in Patients with a Focal Lesion of the Cervicomedullary Junction**
M. Tinazzi, MD, G. Zanette, MD, C. Bonato, MD, P. Manganotti, MD, A. Polo, MD, A. Fiaschi, MD, and F. Mauguère, MD
- 1549 **The mdx-Amplification-Resistant Mutation System Assay, a Simple and Rapid Polymerase Chain Reaction-Based Detection of the mdx Allele**
Andrea Amalfitano, DO, PhD, and Jeffrey S. Chamberlain, PhD
- 1554 **On the Selection of Concentric Needle Electromyogram Motor Unit Action Potentials: Is the Rise Time Criterion Too Restrictive?**
Paul E. Barkhaus, MD, and Sanjeev D. Nandedkar, PhD
- 1561 **Anticipation of Autosomal Dominant Progressive External Ophthalmoplegia with Hypogonadism**
Atle Melberg, MD, Henrik Arnell, MD, Niklas Dahl, MD, Erik Stålberg, MD, Raili Raininko, MD, Anders Oldfors, MD, Benjamin Bakall, Per Olov Lundberg, MD, and Elisabeth Holme, MD
- 1570 **Magnetic Stimulation of Muscle Evokes Cerebral Potentials by Direct Activation of Nerve Afferents: A Study During Muscle Paralysis**
Yu Zhu, MD, Arnold Starr, MD, Scott Haldeman, MD, PhD, Hongxiang Fu, MD, Jinshen Liu, MD, and Pingjia Wu, MD
- 1576 **Deflazacort but Not Prednisone Improves Both Muscle Repair and Fiber Growth in Diaphragm and Limb Muscle in Vivo in the mdx Dystrophic Mouse**
Judy E. Anderson, PhD, Laura M. McIntosh, MSc, and Robert Poettcker, BSc

1586 Reduced Brain Stem Excitability in Mitochondrial Myopathy: Evidence for Early Detection with Blink Reflex Habituation Studies

Michael Koutroumanidis, MD, Alexander Papadimitriou, MD, Evrydiki Bouzas, MD, Theodoros Avramidis, MD, Panayiotis Papathanassopoulos, MD, Robin S. Howard, MD, FRCP, and Theodoros Papapetropoulos, MD

1596 Case of the Month: Nonsystemic Vasculitic Mononeuropathy Multiplex, Cryoglobulinemia, and Hepatitis C

William S. David, MD, PhD, Craig Peine, MD, Peter Schlesinger, MD, and Stephen A. Smith, MD

SHORT REPORTS

1603 The 3260 Mutation in Mitochondrial DNA Can Cause Mitochondrial Myopathy, Encephalopathy, Lactic Acidosis, and Strokelike Episodes (MELAS)

Ichizo Nishino, MD, Mikio Komatsu, MD, Soichi Kodama, MD, Satoshi Horai, MD, Ikuya Nonaka, MD, and Yu-Ichi Goto, MD

1605 Apolipoprotein E Allele Frequencies in Sporadic Inclusion Body Myositis

Seth Love, PhD, FRCP, FRCPath, James A.R. Nicoll, MD, MRCPath, James Lowe, DM, FRCPath, and Fiona Sherriff, PhD

1608 Distal Weakness in Dystrophin-Deficient Muscular Dystrophy

Kevin J. Felice, DO

1611 Acute Demyelinating Polyneuropathy with Arsenic Ingestion

Steven A. Greenberg, MD

1614 Myeloneuropathy in POEMS Syndrome

Raul N. Mandler, MD, and Molly K. King, MD

1617 Distal Dysfunction and Recovery in Ulnar Neuropathy

Alan J. McComas, MB, and Christopher M. White, MD

1620 Cytokines and Myelin Antibodies in Crow-Fukase Syndrome

Kyoko Saida, MD, Mitsuhiro Ohta, PhD, Hideshi Kawakami, MD, and Takahiko Saida, MD

1623 Unsuspected V Nerve Lesion Resulting from Perineural Cancer Spread Detected by Blink Reflex

Firdos S. Sheikh, MB, BS, and Ricardo Maselli, MD

1626 AAEM Practice Topics in Electrodiagnostic Medicine: Guidelines for Outcome Studies in Electrodiagnostic Medicine

AAEM Research Committee

**REGULAR
FEATURES**

1636 Letters to the Editor

1643 Calendar of Events

1645 AAEM News and Comments

1655 Erratum

1658 Volume 19 Author Index

1668 Volume 19 Subject Index

I Volume 19 Contents